

Montana Teen Driver Education and Training

## Module 5.3

# Protecting Occupants

It's About Managing Natural Laws

# Just Like Cars, Our Bodies Obey Natural Laws

Land Transport NZ and NZ Police  
New Zealand Government

You can't beat physics. Slow Down.

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# Student Activity 1

- Work in discussion groups of 2 or 3
- Identify how cars are designed to protect occupants—*What features do they have to manage forces in the event of a crash?*
- Make a list and share it with the class

# Three Collisions in Every Crash

- The Vehicle
- The Body
- The Internal Organs

# The First Collision: Vehicle Crash

- Sudden deceleration
- Short duration-0.1 seconds
- Vehicle crumples to absorb energy of crash

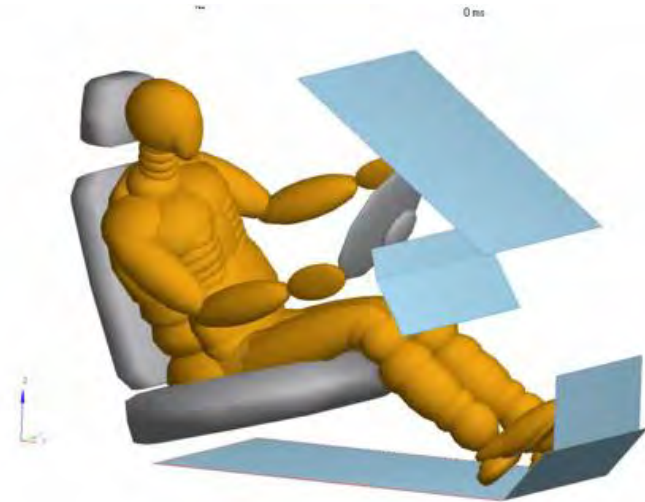
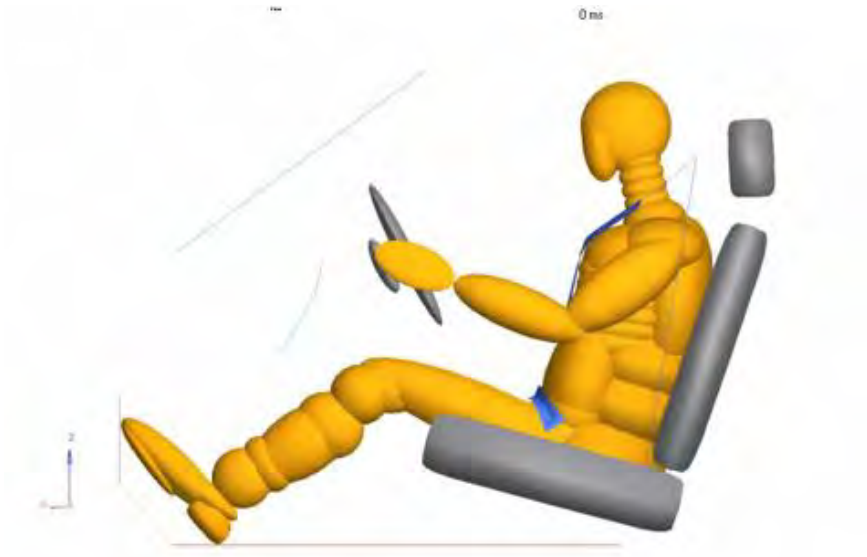


# The Second Collision: Occupant Striking Objects

- The passenger's body strikes an object

**The Second Collision**

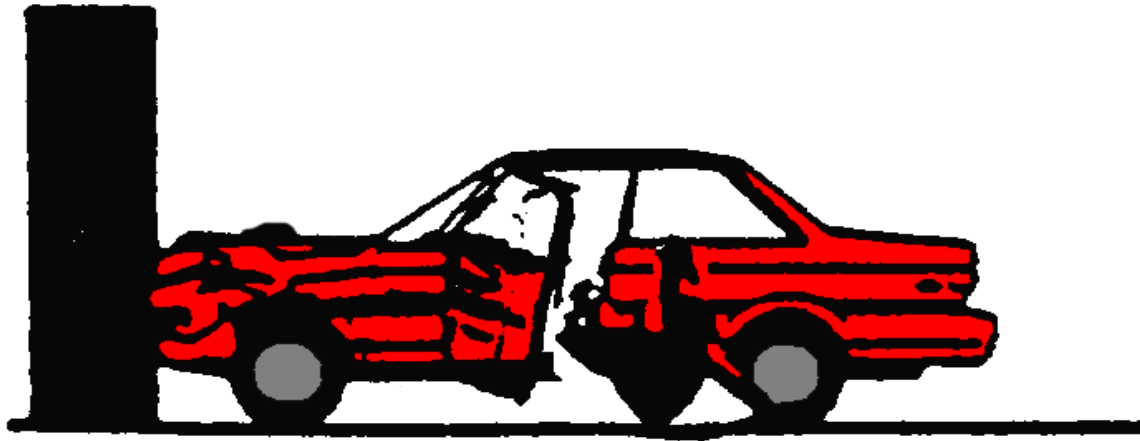
# Belted vs. Unbelted



Click on the either figure to replay that animation

# DID YOU KNOW?

- **Passengers are four times more likely to be killed in a crash when thrown from a vehicle**
- **The crash force can throw a person 150—200 feet onto the road or into a fixed object**



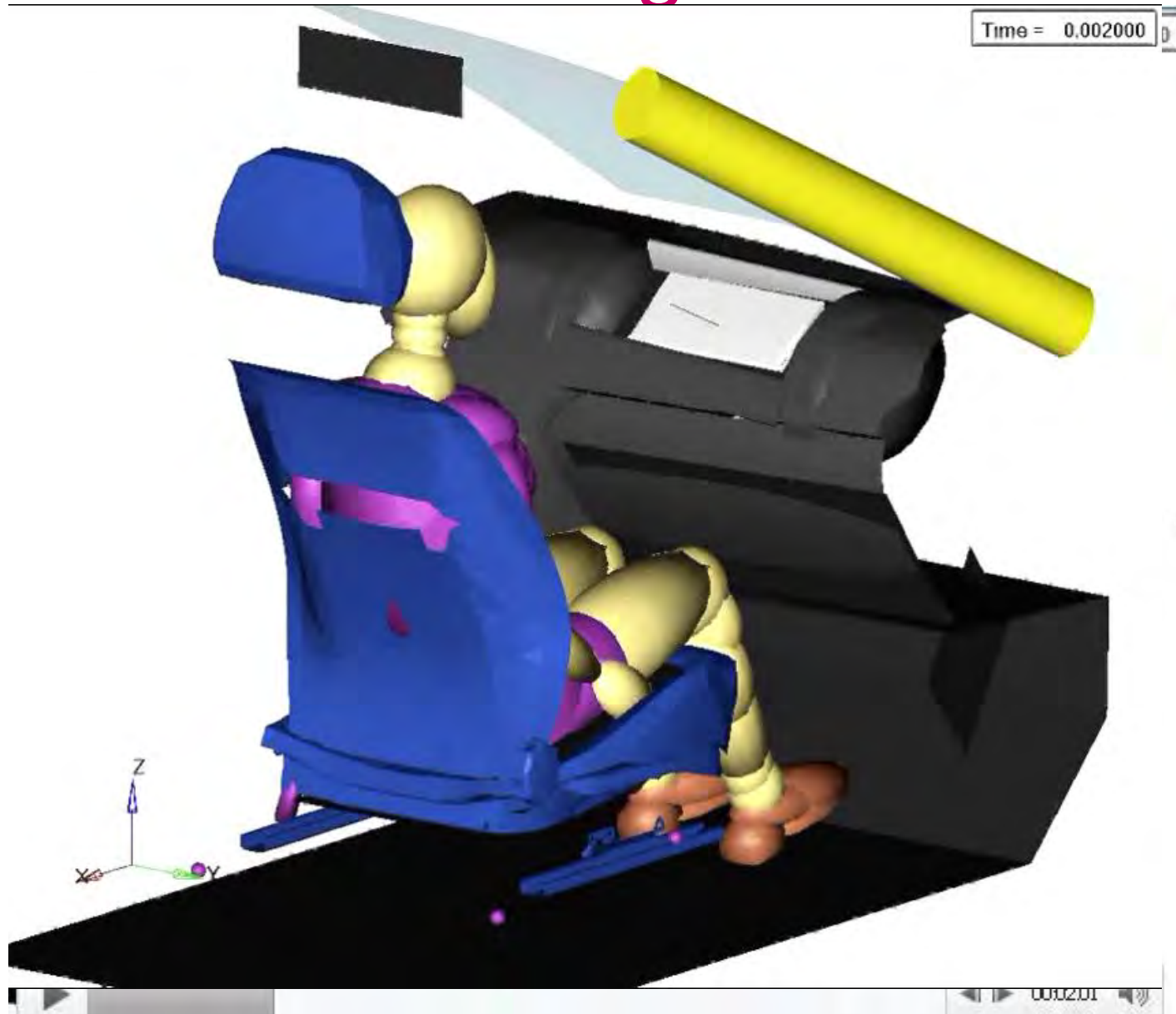
**Stay Alive—Stay Tied to Your Ride**



# What about Airbags?



# What about Airbags and No Belt



# The Third Collision: Internal Organs

- Internal organs move toward point of impact
- They strike other organs, bones, and skull



# Everyone Needs to Buckle Up





# Know your Child Safety Restraint Systems



# Excuses Really?

*I'm only going a short distance and at low speeds.*



# Excuses Really?

***Why is the government telling me what to do?  
It's nobody's business but my own.***

If the person is never hurt in a crash, this excuse works well. Statistics show that unbelted occupants have more severe injuries, longer hospital stays, and more debilitating injuries.

Crash injuries raise the cost of health care for everyone through increased insurance premiums, more tax dollars to fund Medicare, and jeopardize individuals' own financial security. The decision whether or not to buckle up can impact others' lives.

# Excuses Really?

- *Seat belts are uncomfortable.*
- *I'm a good driver.*
- *I'm not in the habit of wearing them.*
- *I'm afraid of being trapped in a fire or under water.*

*How would you respond to these excuses?*



# Student Activity 2

With your new understanding of  
Natural Laws and Seat Belts ...

- Work in groups of 3-4 students.
- Choose two excuses you have heard.
- Identify why their logic is flawed *based on your knowledge of natural laws*. Predict what the consequences of their decision might be.

# Seat Belt Initiatives in Montana

- Current Usage—76.9% all roads
- Goal 2015—Increase usage to 89.3%
- How?
  - Move law from a secondary offense to primary offense
  - Targeted enforcement
  - Education—Plan2Live <http://plan2live.mt.gov/> and Buckle Up Montana <http://buckleup.mt.gov/>

# Everyone, every time, every drive



# Now It's Your Turn

Historically, safety belt usage by teens is lower than adults. Let's change that.

- Create a message for your school that encourages drivers to make sure everyone is safely buckled before the car moves.
- Create a public service announcement video that you can post on social media sites to encourage seat belt use by other teens.

